REMARKS

Claims 1-2, 5-7, 16, 17, 19-22, and 31 stand rejected under 35 U.S.C. §103(a) as being obvious over Derby et al. (U.S.P.N. 6,097,498) (hereinafter "Derby") in view of Herzog et al. (U.S.P.N. 4,651,278) (hereinafter "Herzog"), and further in view of Dawson (U.S.P.N. 5,553,160) (hereinafter "Dawson"). Claims 10-12, 15, 25-27, 30 and 32 stand rejected as obvious over Derby in view of Herzog, and further in view of Thompson (U.S.P.N. 4,463,374) (hereinafter "Thompson"). Claims 8, 9, 23, and 24 are rejected as obvious over Derby in view of Herzog, Dawson, and Thompson. Claims 33-39 are newly added by amendment. In light of the Remarks, the Applicants respectfully traverse the rejections and request reconsideration and allowance of the pending claims.

Rejections Under 35 U.S.C. §103(a)

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 493 (Fed. Cir. 1991).

Independent Claim 1

The Office Action rejects independent claim 1 as obvious over Derby in view of Herzog and further in view of Dawson. To support a rejection of claim 1 as obvious, the Office Action states in relevant part:

> Regarding claim 1: Derby teaches a method of transmitting print data (fig. 2) from a host (18, fig. 3) to a printing device (22, fig. 3, column 4, lines 44-48) for processing, comprising the steps of: (a) dividing the print data into separate data streams (fig. 2); (a) dividing the data streams into data segments (object container, column 6, lines 63-67, fig. 4); (Emphasis added).

Derby at Fig. 2 discloses grouping print commands being sent to a printer. For example, item 12 of Fig. 2 discloses a grouping of J_L through J_1 of Job print commands. Derby also discloses an "object container" which encapsulates a group of print commands as disclosed in Fig. 2 of Derby. Accordingly, Derby discloses:

> The printer control stream 54 also includes an object-container 66 (also sometimes referred to as a "capsule") having a start command 68 and an end command 70, both commands defined in the native page description language. The object-container also includes a middle portion 72 located between the start command and the end command. The middle portion is used for carrying the job-tracking information J.sub.1 J.sub.2 . . . J.sub.L, or, alternatively, for carrying a foreign print object P.sub.1 P.sub.2 . . . P.sub.N (FIG. 2). Derby Col. 6, lines 15-24. (Emphasis added).
>
> The printer control stream 76 includes an object-container 88 which begins with an object-container start command 90, and ends with an object-end command 92. The container 88 also includes an object-type command 94 which follows the object-container start command 90 and precedes the contained object, which in this illustration is job-tracking information 96. The object-container start command 90, the object-end command 92, and the object-type command 94 are all defined in the native page description language. The object-type command 94 permits the object-type identifying circuit 80 to determine the type of object carried within the container 88 without the need to carefully examine the initial commands of the object 96 in an effort to match the object's initial commands J.sub.1 J.sub.2 J.sub.3 . . . , etc., with stored patterns. Derby Col. 6, line 62 to Col. 7, line 9. (Emphasis added).

As seen above, the object container of Derby contains more than a group of print commands. For example, the object container 66 in Fig. 4 of Derby contains a group of Job print commands J_L through J_1 as well as additional data. In other words, the object container in Derby is larger than a group of print commands as disclosed in Derby.

Claim 1 of the Application recites a method of transmitting print data from a host to a print device, with the method doubly dividing the print data. First, step (a) of claim 1 recites dividing the print data into separate data streams. Second, in step (b), those data streams are then further divided into data segments. Thus, steps (a) and (b) of claim 1 twice divide the print data into smaller units, resulting in the data segments of step (b). In comparison, Derby discloses dividing a printer control stream into groups of commands and then placing a group of

commands into an object container. Derby at Fig. 2; Col. 6, lines 14-24; Derby Col. 6, line 62 to Col. 7, line 9. Thus, Derby does not disclose further dividing a group of commands into smaller units. Accordingly, claim 1 is allowable for at least the reason that the command groups and object containers of Derby do not disclose dividing data streams into data segments as recited in step (b) of claim 1.

The Office Action asserts that it would have been obvious to combine Derby with Herzog and Dawson to arrive at the invention of claim 1. In response, the Applicants assert that the level of skill in the art cannot be relied upon to provide the suggestion to combine references. Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308 (Fed. Cir. 1999). If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900 (Fed. Cir. 1984). Further, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810 (CCPA 1959).

The Applicants respectfully assert that Derby and Dawson are not properly combinable to arrive at the invention of claim 1. As discussed above, Derby discloses the use of a printer control stream to print documents. Dawson is directed to a method for dynamically selecting whether an image is compressed using a lossless or lossy compression process. As understood by one of skill in the art, lossy data compression results in a compressed file, which, when subsequently decompressed, results in a degraded version of the input data. In other words, data is lost in a lossy compression process. The Applicants respectfully assert that no motivation to combine Derby and Dawson exists because application of the compression process of Dawson to Derby would result in the degradation and corruption of data sent to a printer, rendering Derby unsatisfactory for its intended purpose. For the same reason, no motivation to combine Derby and Dawson exists because applying the compression process of Dawson to Derby would change the principle of operation of Derby. Accordingly, the Applicants also respectfully assert that the application of Dawson to Derby is a result of impermissible hindsight reconstruction.

In view of the Remarks, claim 1 of the Application is allowable for at least the reasons that not every step of claim 1 is disclosed by the cited references, and because Derby and Dawson are not properly combinable to arrive at the invention of claim 1.

Independent Claims 10, 16, 25, 31, and 32

The Applicants respectfully assert that independent claims 10, 16, 25, 31, and 32 are allowable for at least the reasons given for the allowability of claim 1.

Dependent Claims 2 and 17

To support a rejection of claim 2 as obvious, the Office Action states in relevant part:

> Derby teaches wherein the step of compressing the data segments is performed using different compression algorithms for different segments (column 5, lines 10-25, column 4, lines 30-35). (Emphasis added).

Derby discloses a printer control stream containing both data and commands formatted in a page description language ("PDL"). Derby Col. 1, lines 31-50; Col. 1, line 64 to Col. 2, line 12; Col. 4, lines 26-43; Col. 6., lines 15-24. Derby discloses a printer which can print documents in different PDLs using an appropriate PDL interpreter. Derby Col. 1, line 64 to Col. 2, line 4; Col. 5, lines 19-22.

Derby at Col. 5, lines 10-25 discloses:

> The initial commands of the foreign print object 14, however, must be carefully examined by the "sniffing" circuit 38 to determine the type of object and the page description language used to define the object. Once these matters have been determined, the "sniffing" circuit 38 activates an appropriate foreign language interpreter 46, 48 and routes the entire foreign language object 14 to the appropriate foreign language interpreter. In a typical example, one interpreter 46 is used to interpret the PostScript.TM. page description language, while the other interpreter 48 is used to interpret the PCL.TM. page description language. The output of the activated interpreter is typically used to form a portion of a printed page, or an entire page, or multiple pages by being added to one or more logical pages 44.

Derby at Col. 4, lines 30-35 discloses:

> A print job will typically include job-tracking information and print objects expressed in the native language, and may include print objects expressed in one or more foreign page description languages. The print objects are used to define the contents of anything from a portion of a printed page to an entire document.

The above citations from Derby disclose using interpreters to print separate documents which are described in different PDLs. The Applicants respectfully assert that Derby's references to interpreting different documents described in different PDLs do not teach or disclose compressing different data segments using different compression algorithms as recited in claim 2 of the Application. As discussed above, Derby does not disclose data segments as recited in claim 1 Application, from which claim 2 depends. Accordingly, references in Derby to printing in different PDLs can not teach or disclose compressing data segments using different compression algorithms as recited in claim 2. Thus, claim 2 is allowable for at least the reason that none of the cited references disclose compressing data segments using different compression algorithms as recited in claim 2. Claim 2 is also allowable for at least the reasons given for the allowability of claim 1.

Claim 17 recites compressing data segments using different compression algorithms, and so is allowable for at least the reasons given for the allowability of claim 2. Claim 17 is also allowable for at least the reason that it depends from allowable independent claim 16.

Dependent Claims 33, 35, 37, and 38

Claims 33, 35, 37, and 38 are newly added by amendment, and each recites a step or element drawn to a map in the print header which details the order in which data segments will be transmitted from the host to the print device. Support for the map can be found in the Application as-filed at least at page 7, line 20 to page 8, line 7. The Applicants respectfully assert that claims 33, 35, 37, and 38 are allowable for at least the reason that none of the cited references teach or disclose the use of a map in a print header to detail the order in which data segments will be transmitted from the host to the print device. Claims 33, 35, 37, and 38 are also allowable for at least the reason that each depends from an allowable independent claim.

Dependent Claims 34, 36, and 39

Claims 34, 36, and 39 are newly added by amendment, and each recites a step or element drawn to performing DMA interrupts at the start and end of each color in the data streams and at coordinated points in the data streams. Support for performing DMA interrupts at the start and end of each color and at coordinated points in the data streams can be found in the Application

as-filed at least at page 12 lines 1-17. The Applicants respectfully assert that claims 34, 36, and 39 are allowable for at least the reason that none of the cited references teach or disclose performing DMA interrupts at the start and end of each color and at coordinated points in the data streams. Claims 34, 36, and 39 are also allowable for at least the reason that each depends from an allowable independent claim.

CONCLUSION

In view of the Remarks, each of the presently pending claims in the Application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass the Application to issue. No additional fee is believed due. However, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

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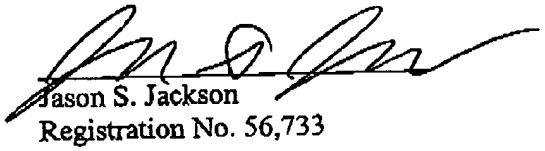

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